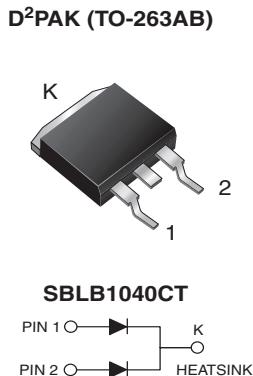
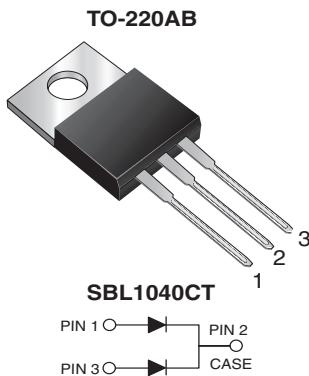


Dual Common Cathode Schottky Rectifier



FEATURES

- Power pack
- Guardring for overvoltage protection
- Low power loss, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for D²PAK (TO-263AB) package)
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for TO-220AB package)
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

DESIGN SUPPORT TOOLS


[click logo to get started](#)

PRIMARY CHARACTERISTICS	
I _{F(AV)}	2 x 5 A
V _{RRM}	40 V
I _{FSM}	175 A
V _F	0.55 V
T _J max.	125 °C
Package	TO-220AB, D ² PAK (TO-263AB)
Circuit configuration	Common cathode

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters, and polarity protection application.

MECHANICAL DATA

Case: TO-220AB, D²PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/NHE3_X - RoHS-compliant, AEC-Q101 qualified
("X" denotes revision code, e.g. A, B, ...)

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T _C = 25 °C unless otherwise noted)			
PARAMETER	SYMBOL	SBL1040CT	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	40	V
Working peak reverse voltage	V _{RWM}	28	
Maximum DC blocking voltage	V _{DC}	40	
Maximum average forward rectified current at T _C = 107 °C	I _{F(AV)}	10	A
per diode		5.0	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	175	
Operating junction and storage temperature range	T _J , T _{STG}	-40 to +125	°C

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUE	UNIT
Maximum instantaneous forward voltage per diode	V_F ⁽¹⁾	5.0 A	0.55	V
Maximum instantaneous reverse current at DC blocking voltage per diode	I_R ⁽²⁾	Rated V_R	$T_C = 25^\circ\text{C}$	0.5
			$T_C = 100^\circ\text{C}$	50

Notes

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

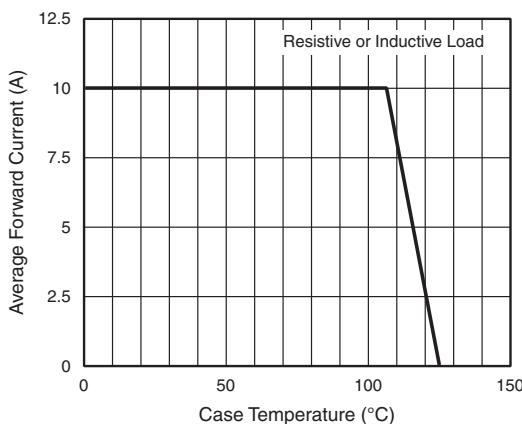
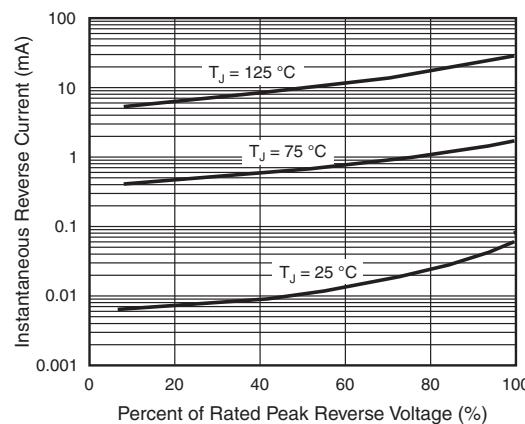
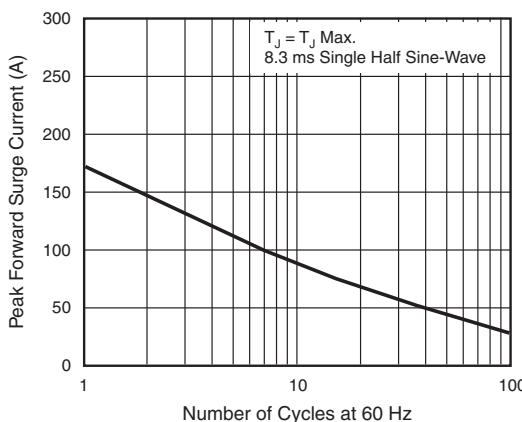
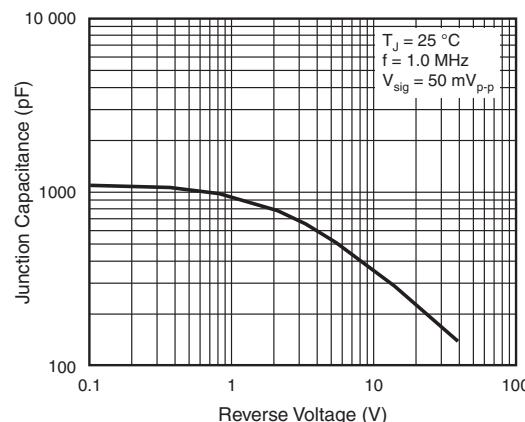
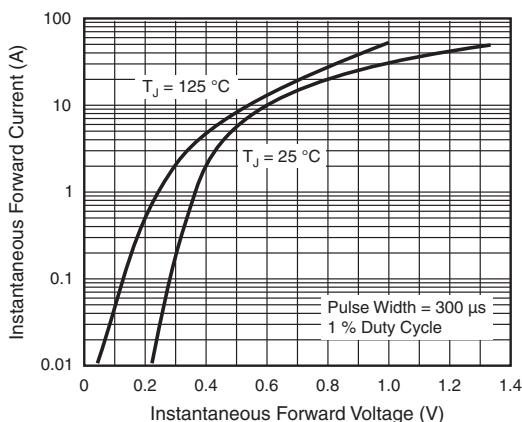
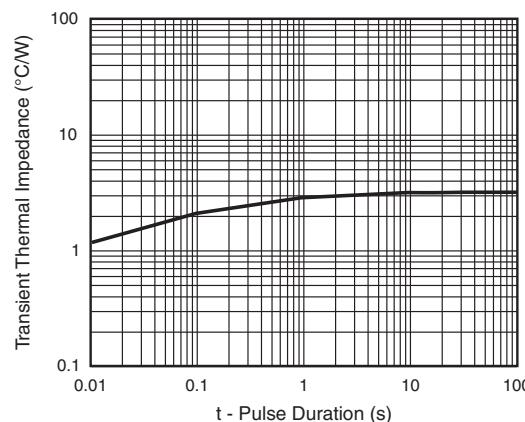
(2) Pulse test: pulse width ≤ 40 ms

THERMAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SBL	SBLB	UNIT
Typical thermal resistance per diode	$R_{\theta JC}$	3.0	3.0	$^\circ\text{C/W}$

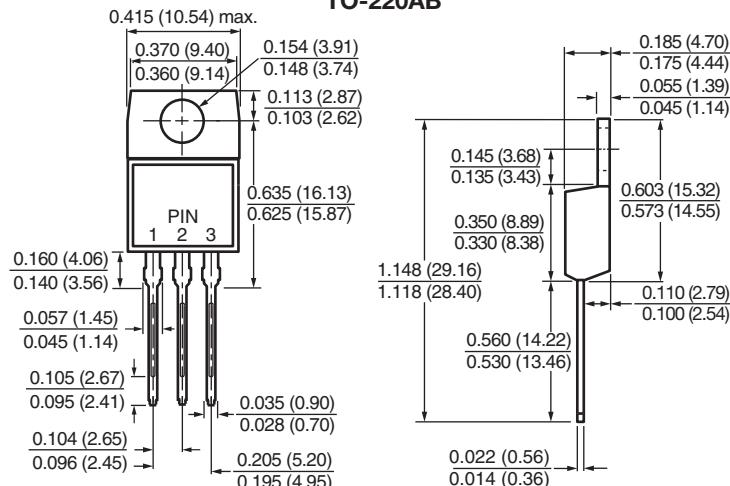
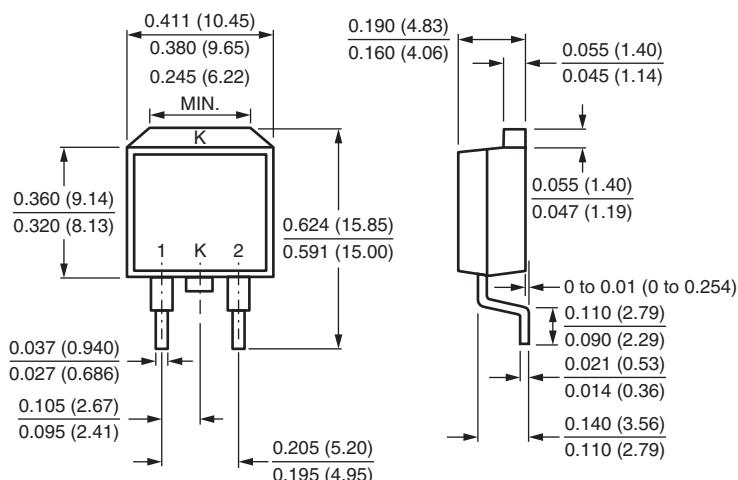
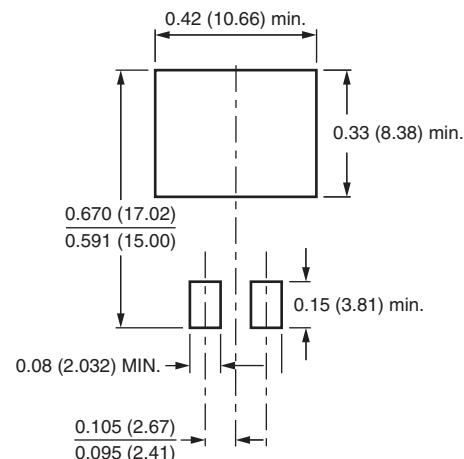
ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	SBL1040CT-E3/45	1.85	45	50/tube	Tube
TO-263AB	SBLB1040CT-E3/45	1.35	45	50/tube	Tube
TO-263AB	SBLB1040CT-E3/81	1.35	81	800/reel	Tape and reel
TO-263AB	SBLB1040CTHE3_B/P ⁽¹⁾	1.35	P	50/tube	Tube
TO-263AB	SBLB1040CTHE3_B/I ⁽¹⁾	1.35	I	800/reel	Tape and reel

Note

(1) AEC-Q101 qualified, available in D²PAK (TO-263AB) package only

RATINGS AND CHARACTERISTICS CURVES ($T_C = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

Fig. 4 - Typical Reverse Characteristics Per Diode

Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

Fig. 5 - Typical Junction Capacitance Per Diode

Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB

D²PAK (TO-263AB)

Mounting Pad Layout


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